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Utah Division of Oil Gas & Mining
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AUG 02 1990

DIVISION OF
OIL, GAS & MINING August 1990

Pamela:

Ref: Five-Year Permit Renewal Application and Federal Lease Tract Addition, Permit Application Package (PAP) updates, Bear Canyon Mine, Co-Op Mining Company, ACT/015/025, Emery County, Utah

With this letter are ten copies, as requested, of the updated pages from the PAP. The updates are intended to fulfill the requirements for the Five-Year Permit Renewal Application, as well as for the addition of the Federal Lease Tracts.

Please forward this material, along with a copy of the itemized list, discussing the Initial Completeness Review (ICR) response, to the applicable reviewing agencies. The itemized list was sent with the first four copies. Thank you for your cooperation in this matter.

Sincerely,

Kimly C. Mangum, P.E.
Permitting & Compliance Consultant.

Enclosure(s)

Pamela Grubaugh-Littig
Permit Supervisor
Utah Division of Oil Gas & Mining
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Pamela:

DIVISION OF
OIL, GAS & MINING

13 July 1990

Ref: Five-Year Permit Renewal Application and Federal Lease Tract Addition, Permit Application Package (PAP) updates, Bear Canyon Mine, Co-Op Mining Company, ACT/015/025, Emery County, Utah

The PAP with attached updates is intended to fulfill the requirements for the Five-Year Permit Renewal Application (expires 1 November 1990) as well as for the addition of the Federal Lease Tracts.

Enclosed is an itemized list discussing Co-Op Mining Companies response to the comments made in the Initial Completeness Review (ICR) received from DOGM. Also attached are four copies of Pages and Plates incorporated in the response.

Please review these items and inform me of any additional information that may be required to complete the PAP for approval. Additional copies will be submitted when requested. Thank you for your cooperation in this matter.

Sincerely,



Kimly C. Mangum, P.E.

Permitting & Compliance Consultant.

Enclosure(s)

cc: Co-Op Mining Co.

DOGM ICR

UMC 771.25 Permit Fees The \$5.00 application fee is attached.

UMC 771.27 Verification of Application A letter of verification from Co-Op Mining Company is attached.

UMC 782.13 Identification of Interests The legal description of the federal leases is properly stated in the PAP. See p 2-3.

UMC 782.14 Compliance Information (c) The listing of violations has been updated. See Appendix 2-A.

UMC 782.18 Personal Injury and Property Damage Insurance Information The "Certificate of Insurance" has been updated. See Appendix 2-C.

UMC 782.19 Identification of Other Licenses and Permits (b) The address of the issuing authorities is included on Table 2-2, pp 2-12 thru 2-14.

UMC 782.21 Newspaper Advertisement and Proof of Publication A sample of the newspaper advertisement to be published is attached.

UMC 783.22 Land Use Information Emery County Zoning Classifications are correctly identified on pp 4-2 and 4-3. Plate 2-2 identifies different zoning in the area.

UMC 783.24 Maps General Requirements (a) Subsurface ownership on Plate 2-3 has been modified as requested. **(c)** Plates 3-4 and 3-4a have been updated to show the projected mining sequence.

UMC 783.25 Cross Sections: Maps and Plans No mines are known to exist above or below this mine. No oil or gas wells are known to be in the mine area. See Plate 3-4.

UMC 784.11 Operation Plan: General Requirements The type and method of coal mining for each seam is identified in Section 3.4.1 of the mine plan.

UMC 784.12 Operation Plan: Existing Structures Photographs of existing structures are included, see Appendix 3-A. (To be submitted within the next week.)

UMC 784.13 Reclamation Plan: General Requirements (b)(6) The BLM Resource Recovery and Protection Plan will be included as Appendix 3-L when obtained. **(b)(9)** A copy of the Bureau of Air Quality

UMC 784.13 Reclamation Plan: General Requirements (b)(6) The BLM Resource Recovery and Protection Plan will be included as Appendix 3-L when obtained. (b)(9) A copy of the Bureau of Air Quality Approval order allowing increased production is presently included in the PAP as pp 11B-4 and 11B-5.

UMC 784.19 Underground Development Waste There are no changes anticipated for treatment, disposal or increase in relative quantities of underground development waste. See Sections 3.3.9 and 3.5.8.

UMC 783.12 General Environmental Resources Information (a) Table 3.4-1 (p 3-27) has been updated. According to the LMU presently submitted to the BLM, total recoverable reserves for the Bear Canyon Mine are 8,843,759 tons, of which 1,655,00 tons in the Hiawatha Seam are questionable. At 400,000 tons per year this would give approx 22 years (2012) of mine life.

UMC 783.14 Geology Description Mining has not reached projected sample site CS-3 as of this time. Once mining reaches the proposed location, roof, floor, and midseam samples will be collected and analyzed as outlined in the Division Guidelines for Management of Overburden and Topsoil, Table 6. Laboratory results will be forwarded to the Division as soon as they are available. It is proposed to collect and analyze an additional roof, floor, and midseam sample at the proposed site CS-4, as shown on Plate 3-4. This sample will be analyzed in the same manner as described for CS-3. Results of sampling will be submitted to the Division with the Annual Report for the year in which the sample is taken.

If the mining operations change and it results in a modification to the quality of the roof, floor, and midseam, additional samples will be taken on an annual basis, and the results reported to the Division with the Annual Report.

UMC 783.19 Vegetation Information Plate 9-1 has been expanded to include the federal lease area and the vegetation type information is included in Chapter 9.

UMC 783.20 Fish and Wildlife Information Please review the latest copy (previously submitted) of Chapter 10. Appendices were renumbered and wildlife mitigation is now included as Appendix 10-B. A new raptor study has been made and will be submitted upon completion of the report for inclusion as Appendix 10-D.

UMC 784.20 Subsidence Control Plan Effects of subsidence in the lease addition areas has been included. See Plate 3-3 and Appendix 3-H. The present subsidence monitoring plan consists of 3 monitoring points (SMS-1, SMS-2, and SMS-3) in the Bear Canyon Permit Area, a fourth point SMS-4 in the Trail Canyon Permit Area, and a Control Point CON-5, located outside the mining area. SMS-1, SMS-3, and SMS-4 are common to both the Trail Canyon and Bear Canyon Permits. As noted in Appendix 3-C, Lease Addition, p 3C-4, a new control point will be established outside the permit expansion area, and CON-5 will become an additional subsidence monitoring point (to be redesignated SMS-5). In addition to the new control point (CON-6), four additional subsidence points (SMS-7, SMS-8, SMS-9, and SMS-10) are proposed to be added in the Federal Lease expansion area. The location of all existing and proposed points are shown on Plate 3-3.

It is proposed to install the new points in an approved manner described in Appendix 3-H, and to monitor the points annually per the approved plan. In addition, a field investigation shall be made yearly of the mining area (including escarpment areas), and any obvious subsidence or mine-related surface effects will be noted and located on the maps. The results of the Annual Survey will be submitted to the Division in the annual report, starting with the 1990 report.

Expected Subsidence. Due to the increased cover in the federal lease area, the width/depth ratio for the typical pillar panel has decreased to 0.35 (based on an average depth of 1750 feet). Using the methodology described in Appendix 3-H (p 3H-8), the maximum potential subsidence over a pillared panel in a nine foot coal seam is 20 pct of t or 1.80 feet. If the lower 5 is mined in addition, an additional 1.0 feet of maximum subsidence is projected, resulting in a maximum potential subsidence of 2.80 feet for both seams. It should be noted, again, that no actual subsidence has been noted from areas pillared as much as 40 years ago, and the subsidence monitoring network initiated in 1987, has shown only minor (0.47 ft max) variations in elevation. Based on this, little, if any, detectable subsidence is expected to become apparent when mining under these depths. Some minor fracturing and an escarpment rock fall have been noted in the adjacent Trail Canyon Mine area, and although these are assumed to be mine-related, they occurred in areas of relatively low cover and unknown outcrop protection. No such occurrences have been noted in relation to the Bear Canyon Mine. (See Plate 3-3).

Potential Subsidence Impacts. The following will discuss potential subsidence impacts on each of the renewable resources:

- a. **Hydrologic Balance.** Potential affects of mining on the hydrologic balance are discussed in Appendix 3C and in the Gentry Mountain C.H.I.A., Appendix 7-L. An additional concern over escarpment failure has been raised by the U.S. Forest Service; therefore, the following discussion will address the potential for such failure.

The steep area of Bear Canyon in the S.W. corner of Section 13 is approx 1400 feet above the coal seam (See Plate 6-2). Based on past mining experience and the subsidence calculations in this response, the potential for escarpment failure under these conditions is very remote. Due to the high cover, it is not conceivable to limit second mining in this area, since a 30 deg Angle-of-Draw protection would effectively prevent second mining on the majority of the Lease U-024316, resulting in a major loss of recoverable reserves. It should also be noted that the mine plans shown on Plate 3-4 do not extend beneath this escarpment area because of a fault.

Although escarpment failures and slides are considered unlikely under this projected mining scenario, such occurrences are always possible in steep canyon areas such as this. If such failures should occur, the Division and U.S. Forest Service, Price District Ranger would be notified and mining in the affected area would be stopped until an evaluation could be made as to the cause and any remedies or protection could be implemented. Such failures would potentially impact the quality of surface water, due to an increase in sediment load; however, sediment controls would be installed down stream, if monitoring showed such increases, to protect the quality of water reaching Huntington Creek.

Outcrop protection has been increased to a minimum of 200 feet in the plan (see pp 3-18, 3H-6). This is consistent with other mines in the Wasatch Plateau, and with the exception of some longwall operations, has been shown to be effective at preventing escarpment failure near outcrops.

- b. **Timber.** The only marketable timber in the area may be on the McCadden Ridge within Lease U-024316, which is under the control of the U.S. Forest Service. Due to the high amount of cover in the area, and the relatively small amount of subsidence expected, it is unlikely that subsidence affects would impact this resource in a manner to render it unusable.

- c. Vegetation. The vegetation resource above the lease area consists of some rangeland for grazing of stock and wildlife. Past mining in areas of less cover has indicated no negative impacts on the vegetation resource. If subsidence should occur, effects would likely be minimal, resulting in some fracturing or slight depressions and could result in displacement of vegetation. Mitigation of such a situation could be accomplished by filling of fractures, regrading and replanting such areas.
- d. Fish and Wildlife. There are no fish known to exist above the federal lease permit area. The area is heavily utilized by a wide variety of wildlife. Although subsidence is unlikely, should it occur, some loss of riparian area or water resources is possible. Such impacts and mitigation measures would be as described in Appendix 3C and the Gentry Mountain C.H.I.A. (Appendix 7-L).
- The stream in McCadden Hollow is of concern; however, the extreme cover in this area makes it very unlikely to be impacted by a room and pillar operation such as that in the Bear Canyon Mine. Mining under such streams is not inconsistent with other mines in the area, often under lighter cover conditions.
- e. Paleo-Archeological. There are no known sites within this area. (See Appendix 5-A)
- f. Man-Made Structures. There are no man-made structures above the lease area with the exception of two 4x4 roads. Potential subsidence impacts to the roads would be minimal, since the unlikely formation of fractures or depressions would hardly be noticeable on a 4-wheel drive road.
- g. Minerals, Oil, and Gas. There are no known oil and/or gas wells within the lease expansion area.

Renewable Resources. As mentioned on p 3C-4, a renewable resource survey was conducted in 1984 on the additional fee property and adjacent federal leases. The U.S. Forest Service has pointed out that two 4x4 roads exist above lease U-024316. No other man-made structures, roads, power lines, etc. are known to exist above the mining area. Renewable resources are so described in Appendix 3-H, pp 3H-2 and 3H-3.

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UMC 784.26 Air Pollution Control See response to UMC 784.13(b)(9)

A spring and seep inventory of the Permitted and Federal Lease areas has been made and is to be included as Appendix 7-M.

NEWSPAPER ADVERTISEMENT

Co-Op Mining Company, Box 1245, Huntington, Utah, hereby announces its intent to file application for a coal mining permit for an addition to the permitted area of the Bear Canyon Mine (ACT/015/025) with the Division of Oil Gas and Mining under the laws of the State of Utah. A copy of the complete application is available for public inspection at the Division of Oil Gas and Mining offices, 355 W. North Temple, 3 Triad Center, Salt Lake City, Utah 84080. Written comment on the application should be submitted to the State of Utah, Oil Gas and Mining Division, at the above address. The area to be mined can be found on the USGS Hiawatha quadrangle map. The addition is adjacent to the permitted area and is on land with BLM subsurface ownership (Lease U024316 and U024318) and U.S. Forest Service surface ownership. The coal area is described as follows:

Lease U024316, T16S, R7E SLBM, Sec. 13 W 1/2 W 1/2, Sec. 14 E 1/2 NW 1/4, NE 1/4

Lease U024318, T16S, R7E SLBM, Sec. 26 E 1/2 NW 1/4